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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LU, ZHIYU

ART UNIT

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2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/674,877	Applicant(s) SCHILLING ET AL.	
	Examiner ZHIYU LU	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 4-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/18/2010 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 2 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 4 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US5264795) in view of Meinke (US4193123) and Hethuin (US5712639).

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Regarding claim 2, Rider teaches device for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints, wherein said first unit (100 of Figs. 5-6) comprises:

- a data source for generating a serial data stream (145 of Fig. 6, column 9 lines 34-37);

- a transmitter (100 of Fig. 5) for generating electrical signals from said serial data stream from said data source (column 9 lines 34-37, column 12 line 48 to column 13 line 31);

- a controller (110 of Fig. 6) coupled between said data source and said transmitter for controlling said serial data stream, wherein said controller comprises:

 - means for storing (RAM of Fig. 7, wherein input data processed by microcontroller obviously goes through a temporary storage area) data from the serial data stream; and

 - means for outputting (114, 115, 117-118 of Fig. 7) the stored data to said transmitter in accordance with the desired value of data rate or data package size (column 10 lines 3-45, programmable timer for desired rate); and

- a transmitter conductor array (20 of Fig. 5) for conducting said electrical signals generated by said transmitter;

wherein said second unit (200 of Figs. 5-6) comprises:

- a receiving antenna (290 of Fig. 6) for tapping electrical signals in the near field of said transmitter conductor array;

- a receiver (260 of Fig. 6) for receiving the signals tapped by said receiving antenna; and

- a data sink (210 of Fig. 6) for subsequent processing of the signals received by said receiver.

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Rider does not expressly disclose converting a data rate or data package size of said data source into a desired value of data rate or data package size; and means for storing a transmission function, which serves to adapt the desired value of data rate or data package size in a dynamic manner based on a position of the first and second units relative to each other or based on a point of time.

However, Rider teaches said data source being from a personal computer (column 9 lines 34-37, which is digital data packet) and processing/modulating said serial data stream from said data source with a default baud rate (column 10 lines 4-45, column 12 lines 55-63). And data rate/bit rate is the product of the symbol rate (baud rate) and the number of bits encoded in each symbol. It would have been obvious to one of ordinary skill in the art to recognize that the data rate of the source of Rider does changed in the processing through the transmitter.

Meinke teaches digital-to-analog converter requiring data rate conversion between a digital information source and the converter itself (column 1 lines 12-19), which would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data rate conversion taught by Meinke into the converters of Rider, in order to provide an interface between arrangements that operate at different rates.

Hethuin teaches adapting bit rates to relative distance between two stations (column 1 lines 15-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Hethuin's teaching into the system of Rider and Meinke, in order maintain quality of transmission.

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Regarding claim 8, Rider, Meinke, and Hethuin teach a method of broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints as explained in response to claim 2 above.

Regarding claim 6, Rider, Meinke, and Hethuin teach the limitation of claim 2.

Rider teach further comprising a micro controller is provided for controlling or diagnosing the system (Processor of Fig. 7).

Regarding claim 7, Rider, Meinke, and Hethuin teach the limitation of claim 1.

Rider teaches wherein the system is self-learning and adapts itself dynamically to respective conditions of operation, (column 25 lines 7-40, where a tank circuit provides information for microcontroller to determine the desired operating mode for transmitter).

Regarding claims 4 and 9, Rider, Meinke and Hethuin teach the limitations of claims 2 and 8.

Rider, Meinke and Hethuin teach wherein the dynamically adapted desired value is determined by a desired-value generator according to actual transmission characteristics of a data transmission path between said transmitter and said receiver (as explained in claim 2 above, wherein distance is a transmission characteristic of the transmission path).

Regarding claim 10, Rider, Meinke and Hethuin teach the limitation of claim 8.

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Rider, Meinke and Hethuin teach wherein said step of controlling the serial data stream comprises supplying the desired value of data rate or data package size to said transmitter as explained in response to claim 9 above.

Regarding claim 11, Rider, Meinke and Hethuin teach the limitation of claim 8.

Rider, Meinke and Hethuin teach wherein said step of controlling the serial data stream comprises storing data from the serial data stream if the desired data rate is lower than a rate at which the serial data stream is generated by the data source in said generating step (obvious because a temporary storing is needed for data rate conversion)

Regarding claim 12, Rider, Meinke, and Hethuin teach the limitation of claim 2.

Rider teaches further comprising a decoder (210 of Fig. 6, 611 of Fig. 14) coupled to or included within said receiver for converting a data rate or data package size of the signals received by said receiver into the data rate or data package size generated by said data source (decoder is inherent in receiver for decoding encoded information from transmitter).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US Patent#5264795) in view of Meinke (US4193123), Hethuin (US5712639) and Marchetto et al. (US Patent#5914959).

Regarding claim 5, Rider, Meinke and Hethuin teach the limitation of claim 2.

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But, Rider, Meinke and Hethuin do not expressly disclose further comprising an analyzer coupled between said receiver and said data sink, wherein said analyzer is configured for signaling incorrectly transmitted data to said controller by means of an additional transmission path, and wherein said controller is configured for repeating said incorrectly transmitted data packages upon request by said analyzer.

Marchetto et al. teach an analyzer coupled between said receiver and said data sink, wherein said analyzer is configured for signaling incorrectly transmitted data to said controller by means of an additional transmission path, and wherein said controller is configured for repeating said incorrectly transmitted data packages upon request by said analyzer (abstract, Fig. 2, column 1 line 57 to column 3 line 30).

Despite difference in wireless communication protocols, requesting retransmission for detecting error data for completing data reception would have been an obvious feature in wireless communication for one of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate having means for requesting retransmission taught by Machetto et al. into the device of Rider, Meinke and Hethuin, in order to provide resilient communication.

5. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US Patent#5264795) in view of Meinke (US4193123) and Davies (US2002/0109890).

Regarding claim 13, Rider and Meinke teach a system for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined

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path relative to said first unit, via non-contacting rotary joints, as explained in response to claim 2 above.

But, Rider and Meinke do not expressly disclose wherein the transmission path is subdivided into segments, and wherein said electrical signals are conducted exclusively at positions where segments of the transmission path are present.

Davies teaches subdividing transmission path into segments, and wherein said electrical signals are conducted exclusively at positions where segments of the transmission path are present (Fig. 3), which would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate into the system of Rider and Meinke, in order to provide control over transmission path.

Regarding claim 14, Rider, Meinke, and Davies teach the limitation of claim 13.

Rider, Meinke, and Davies teach wherein the said second unit as explained in response to claim 2 above.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZHIYU LU whose telephone number is (571)272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu
Examiner
Art Unit 2618

/Zhiyu Lu/
Examiner, Art Unit 2618
December 30, 2010